

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A hydraulic braking system, comprising:

a fluid pressure cylinder having a housing and comprising a pressurizing piston which is fluid-tightly and slidably received in said housing and which cooperates with said housing to define a front pressurizing chamber, a working fluid in said front pressurizing chamber being pressurized by an advance of said pressurizing piston;

a brake comprising a brake cylinder which is connected to said front pressurizing chamber and which is activated by said working fluid pressurized in said front pressurizing chamber;

a working fluid source connected to said front pressurizing chamber fluid-pressure cylinder; and

a flow control device controlling a flow of said working fluid between said working fluid source and said front pressurizing chamber fluid-pressure cylinder based on a working state of said front pressurizing chamber fluid-pressure cylinder, the flow control device preventing said flow of said working fluid from said front pressurizing chamber to said working fluid source if a fluid pressure in said front pressure chamber is unusual relative to an operation of said pressurizing piston.

2. (Currently Amended) A hydraulic braking system, comprising:

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a fluid pressure cylinder having a housing and comprising a pressurizing piston with a large-radius portion and a small-radius portion which is fluid-tightly and slidably received in said housing and which cooperates with said housing to define a first pressurizing chamber and a second pressurizing chamber, a working fluid in said first and second pressurizing chamber being pressurized by an advance of said pressurizing piston;

a brake comprising a brake cylinder which is connected to said fluid pressurizing cylinder and which is activated by said working fluid pressurized in said fluid pressurizing cylinder;

a working fluid source connected to said fluid pressure cylinder;

FIGS

a first-fill device provided between said working fluid source and said first pressurizing chamber, for ~~inhibiting~~ preventing a flow of said working fluid from said first pressurizing chamber to said working fluid source if a fluid pressure in said first pressurizing chamber is lower than a predetermined value and permitting said flow of said working fluid from said first pressurizing chamber to said working fluid source if said fluid pressure in said first pressurizing chamber is higher than said predetermined value; and

a first-fill selecting device for selecting a mode between an enable mode of said first-fill device and a disabled mode of said first-fill device.

3. (Original) A hydraulic braking system according to claim 2,

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wherein in said disabled mode of said first-fill device, said first-fill selecting device permits a flow of said working fluid into and from said working fluid source even if said fluid pressure in said first pressurizing chamber is lower than said predetermined value.

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4. (Original) A hydraulic braking system according to claim 2,

wherein said first-fill selecting device comprises a shut-off valve disposed in parallel with said first-fill device and produces said disabled mode of said first-fill device by opening said shut-off valve and said enabled state of said first-fill device by shutting said shut-off valve off.

5. (Original) A hydraulic braking system according to claim 2,

wherein said fluid pressure cylinder is a master cylinder comprising a pressurizing piston operatively connected to a brake operating member, said pressurizing piston being moved by said brake operating member to pressurize said working fluid in said first and second pressurizing chamber, and said hydraulic braking system further comprises (a) a brake pressure control device for controlling a fluid pressure in said brake cylinder in a mode wherein said brake cylinder is disconnected from said master cylinder; and (b) a brake system mode selecting device for selecting a mode between a master-pressure working mode wherein said brake is worked by said working fluid supplied to said brake cylinder from said master cylinder, and a control-pressure working mode wherein said brake is worked by said fluid pressure in said brake cylinder controlled by said brake pressure control device.

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6. (Original) A hydraulic braking system according to claim 5,

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further comprising (a) a stroke simulator for applying an opposite force to said pressurizing piston based on an operating force of said brake operating member, allowing said pressurizing piston to move in said master cylinder; and (b) a simulator control device for inhibiting said stroke simulator from working at least at a pressure less than a predetermined value in said master-pressure working mode selected by said brake system mode selecting device and permitting said stroke simulator to work in said control-pressure working mode.

7. (Currently Amended)) A hydraulic braking system, comprising:

a low pressure working fluid source storing a working fluid at approximately atmospheric pressure;

a master cylinder having (1) a housing, (2) a pressurizing piston which is fluid-tightly and slidably received in said housing, which cooperates with said housing to define a front pressurizing chamber connected to the brake cylinder, and which is operatively connected to a brake operating member, said pressurizing piston being moved by said brake operating member to pressurize said working fluid in said front pressurizing chamber, and (3) a supply control device which permits a flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source in a state wherein said pressurizing piston is at a rearmost position end and inhibits prevents said flow in another state;

a flow inhibiting preventing device which is provided between said master cylinder and said low pressure working fluid source and which inhibits prevents said

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flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source even in said state wherein said supply control device should permit said flow, if a fluid pressure in said front pressurizing chamber is unusual relative to an operation of said brake operating member.

8. (Currently amended) A hydraulic braking system according to claim 7, further comprising (a) a brake cylinder which is activated by said pressurized working fluid, (b) a master-cut valve which is disposed between said brake cylinder and said front pressurizing chamber and which permits a flow in its open position and ~~inhibits~~ prevents said flow in its closed position, and (c) a brake pressure control device which is provided between said master-cut valve and said brake cylinder and which controls a fluid pressure in said brake cylinder based on a braking operation in said closed state of said master-cut valve, and said flow ~~inhibiting~~ preventing device comprises a flow ~~inhibiting~~ preventing valve which ~~inhibits~~ prevents said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source if said fluid pressure in said brake cylinder is actually lower than a value based on said fluid pressure in said front pressurizing chamber in said master cylinder although said fluid pressure in said brake cylinder should be controlled to be higher than that in said front pressurizing chamber by said brake pressure control device.

9. (Currently Amended) A hydraulic braking system according to claim 7, further comprising (a) a brake cylinder which is activated by said pressurized working fluid, (b) a master-cut valve which is disposed between said brake cylinder and

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said front pressurizing chamber and which permits a flow in its open position and ~~inhibits~~ prevents said flow in its closed position, and (c) a brake pressure control device which is provided between said master-cut valve and said brake cylinder and which controls a fluid pressure in said brake cylinder based on a braking operation in said closed state of said master-cut valve, said flow ~~inhibiting~~ preventing device comprises a flow ~~inhibiting~~ preventing valve which ~~inhibits~~ prevents said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source if said fluid pressure in said front pressurizing chamber of said master cylinder is actually higher than a value based on a predetermined relationship with an operating force of said brake operating member although said fluid pressure in said brake cylinder should be controlled to be higher than that in said front pressurizing chamber.

10. (Currently Amended) A hydraulic braking system according to claim 7, further comprising (a) a brake cylinder which is activated by said pressurized working fluid, (b) a master-cut valve which is disposed between said brake cylinder and said front pressurizing chamber and which permits a flow in its open position and ~~inhibits~~ prevents said flow in its closed position, (c) a brake pressure control device which is provided between said master-cut valve and said brake cylinder and which controls a fluid pressure in said brake cylinder based on a braking operation in said closed state of said master-cut valve, and (d) a stroke simulator which applies an opposite force to said pressurizing piston based on an operating force of said brake operating member, allowing said brake operating member to move, said flow ~~inhibiting~~ preventing device comprises a flow ~~inhibiting~~ preventing valve which ~~inhibits~~ prevents

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said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source if said fluid pressure in said front pressurizing chamber of said master cylinder is actually higher than a value based on an operating stroke of said brake operating member although said fluid pressure in said brake cylinder should be controlled to be higher than that in said front pressurizing chamber.

11. (Currently Amended) A hydraulic braking system according to claim 7, wherein said flow ~~inhibiting~~ preventing device comprises a solenoid-operated pressure control valve which selects a mode, based on an applied electric current to a coil, between a flow ~~inhibiting~~ preventing mode wherein said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source is ~~inhibited~~ prevented and a flow permitting mode wherein it is permitted.

12. (Currently Amended) A hydraulic braking system, comprising:
a low pressure working fluid source storing a working fluid at approximately atmospheric pressure;
a master cylinder having (1) a housing, (2) a pressurizing piston which is fluid-tightly and slidably received in said housing, which cooperates with said housing to define a front pressurizing chamber connected to the brake cylinder, and which is operatively connected to a brake operating member, said pressurizing piston being moved by said brake operating member to pressurize said working fluid in said front pressurizing chamber, and (3) a supply control device which permits a flow of said working fluid from said front pressurizing chamber to said low pressure working fluid

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source in a state the pressurizing piston is at a rearmost position and ~~inhibits~~ prevents said flow in another state;

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a pilot-operated pressure control valve which is provided between said master cylinder and said low pressure working fluid source, which has a movable member which is moved according to a fluid pressure in said front pressurizing chamber, and which ~~inhibits~~ prevents said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source if said fluid pressure in said front pressurizing chamber is higher than a predetermined value.

13. (Original) A hydraulic braking system according to claim 7,

further comprising a stroke simulator which comprises (a) a housing, (b) a simulator piston defining a first chamber connected to said front pressurizing chamber and a second chamber connected to said low pressure working fluid source in said housing, and (c) a spring means for biasing said simulator piston in the direction that causes a reduction of the volume of said first chamber; and a simulator control valve which is disposed between said low pressure working fluid source and said second chamber and which selectively connects said low pressure working fluid source to said second chamber and disconnects said low pressure working fluid source from said second chamber.

14. (Currently Amended) A hydraulic braking system according to claim 8,

wherein said brake pressure control device comprises (a) an operating force sensor which senses applied operating force to said brake operating member by an

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operator, and (b) an operating force-brake pressure controller which controls said fluid pressure in said brake cylinder based on said operating force of said brake operating member at least in said flow ~~inhibiting~~ preventing mode wherein said flow ~~inhibiting~~ preventing device ~~inhibits~~ prevents said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source.

15. (Currently Amended) A hydraulic braking system, comprising:

a low pressure working fluid source storing a working fluid at approximately atmospheric pressure;

a master cylinder having (1) a housing, (2) a pressurizing piston which is fluid-tightly and slidably received in said housing, which cooperates with said housing to define a front pressurizing chamber, and which operatively connected to a brake operating member, said pressurizing piston being moved by said brake operating member to pressurize said working fluid in said front pressurizing chamber, and (3) a supply control device which permits a flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source in a state the pressurizing piston is at a rearmost position and ~~inhibits~~ prevents said flow in another state;

a brake cylinder which is activated by said pressurized working fluid;

a master-cut valve which is disposed between said brake cylinder and said front pressurizing chamber and which permits a flow in its open position and ~~inhibits~~ prevents said flow in its closed position;

a brake pressure control device which is provided between said master-cut valve and said brake cylinder and which controls said fluid pressure in said brake cylinder based on a braking operation in said closed state of said master-cut valve;

a master-cut valve malfunction probability detector which detects probability of a malfunction of said master-cut valve;

a flow ~~inhibiting~~ preventing device which is provided between said master cylinder and said low pressure working fluid source and which ~~inhibits~~ prevents said flow of said working fluid from said front pressurizing chamber to said low pressure working fluid source even in a state wherein said flow control device permits said flow, if said master-cut valve malfunction probability detector detects probability of said malfunction of said master-cut valve.

16. (Currently Amended) A hydraulic braking method, comprising:

fluid-tightly and slidably receiving a pressurizing piston in a housing of a fluid pressure cylinder, said pressurizing piston cooperating with said housing to define a front pressurizing chamber;

pressurizing a working fluid in said front pressurizing chamber by an advance of said pressurizing piston;

connecting a brake cylinder of a brake to said front pressurizing chamber, said brake cylinder activated by said working fluid pressurized in said front pressurizing chamber;

connecting a working fluid source to said front pressurizing chamber ~~fluid-pressure cylinder~~; and

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controlling a flow of said working fluid with a flow control device between said working fluid source and said front pressurizing chamber ~~fluid pressure cylinder~~ based on a working state of said front pressurizing chamber ~~fluid pressure cylinder~~, the flow control device preventing said flow of said working fluid from said front pressurizing chamber to said working fluid source if a fluid pressure in said front pressure chamber is unusual relative to an operation of said pressurizing piston.

17. (Currently Amended) A hydraulic braking method, comprising:

fluid-tightly and slidably receiving a pressurizing piston with a large-radius portion and a small-radius portion in a housing of a fluid pressure cylinder, said pressurizing piston cooperating with said housing to define a first pressurizing chamber and a second pressurizing chamber;

pressurizing a working fluid in said first and second pressurizing chamber by an advance of said pressurizing piston;

connecting a brake cylinder of a brake to said fluid pressurizing cylinder, said brake cylinder activated by said working fluid pressurized in said fluid pressurizing cylinder;

connecting a working fluid source to said fluid pressure cylinder;

providing a first-fill device between said working fluid source and said first pressurizing chamber;

~~inhibiting~~ preventing a flow of said working fluid with said first-fill device from said first pressurizing chamber to said working fluid source if a fluid pressure in said first pressurizing chamber is lower than a predetermined value;

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permitting said flow of said working fluid with said first-fill device from said first pressurizing chamber to said working fluid source if said fluid pressure in said first pressurizing chamber is higher than said predetermined value; and

selecting a mode with a first-fill selecting device between an enable mode of said first-fill device and a disabled mode of said first-fill device.

18. (Currently Amended) A hydraulic braking method, comprising:

storing a working fluid at approximately atmospheric pressure in a low pressure working fluid source;

fluid-tightly and slidably receiving a pressurizing piston in a housing of a master cylinder, said pressurizing piston cooperating with said housing to define a front pressurizing chamber, said pressurizing piston connected operatively to a brake operating member;

pressurizing said working fluid in said front pressurizing chamber by a movement of said pressurizing piston by said brake operating member;

permitting a flow of said working fluid with a supply control device of said master cylinder from said front pressurizing chamber to said low pressure working fluid source in a state wherein said pressurizing piston is at a rearmost position end and ~~inhibiting~~ preventing said flow in another state;

providing a flow ~~inhibiting~~ preventing device between said master cylinder and said low pressure working fluid source;

~~inhibiting~~ preventing said flow of said working fluid with said flow ~~inhibiting~~ preventing device from said front pressurizing chamber to said low pressure working

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fluid source even in said state wherein said supply control device should permit said flow, if a fluid pressure in said front pressurizing chamber is unusual relative to an operation of said brake operating member.

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19. (Currently Amended) A flow control device for controlling a flow of a working fluid in a hydraulic braking system comprising;

a solenoid-operated pressure control valve which selects a mode, based on an applied electric current to a coil, between a flow ~~inhibiting~~ preventing mode wherein the flow of said working fluid from a pressurizing chamber to a low pressure working fluid source is ~~inhibited~~ prevented, and a flow permitting mode wherein the flow is permitted.

20. (Original) A flow control device according to claim 19,
wherein said flow control device is provided between a master cylinder of the hydraulic braking system and the low pressure working fluid source.

21. (New) A hydraulic braking system according to claim 1, wherein said flow control device prevents said flow of said working fluid from said front pressurizing chamber to said working fluid source if a fluid pressure between said front pressurizing chamber and said brake cylinder differs from a predetermined fluid pressure.

22. (New) A hydraulic braking method according to claim 16, wherein said flow control device prevents said flow of said working fluid from said front pressurizing

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chamber to said working fluid source if a fluid pressure between said front pressurizing chamber and said brake cylinder differs from a predetermined fluid pressure.

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